

REMARKS

In view of the above amendments and the following remarks, reconsideration of the rejections and further examination are requested. Upon entry of this amendment, claims 37-51 are added, and claims 17-36 are cancelled, leaving claims 37-51 pending with claim 37 being independent. Support for the amendments can be found in paragraphs [0148]-[0154] and Figs. 14-16 of the original specification. Therefore, no new matter has been added.

35 U.S.C. §103(a) Rejections

Claims 17-20, 22 and 30 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi et al. (US 4,662,185) in view of Longtin (US 5,566,879). Additionally, claims 29-34 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi et al. (US 4,662,185) in view of Okamoto et al. (US 4,959,969). Furthermore, claims 17-23, 25-26, 28, 30 and 35-36 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi et al. (US 4,662,185) in view of Stamp et al. (US 4,328,680).

Each of these rejections is moot, since claims 17-36 have been cancelled.

New Claims 37-51

Applicants submit that new claims 37-51 are allowable over the cited prior art. Specifically, new independent claim 37 recites a refrigerating storage cabinet comprising an operation control unit configured to control the compressor by selecting one of a plurality of performance levels based on a current temperature, the operation control unit including a temperature change computing section configured to compute a current temperature reduction degree at predetermined intervals of operating time, based on the current temperature and a previously detected temperature, a target temperature reduction degree output section configured to obtain a target temperature reduction degree associated with the current temperature, a comparing section configured to compare the current temperature reduction degree to the target temperature reduction degree, and a compressor control section configured to select one of the plurality of performance levels based on a result of the comparison made by the comparing section.

The cited prior art fails to disclose or render obvious such a refrigerating storage cabinet. In particular, conventional methods, e.g., disclosed by Longtin and Stamp, use an ideal

temperature curve for temperature control, as indicated by the Examiner. According to these methods, the control is repeated at predetermined intervals of operating time, so that the temperature gradually approaches the set temperature along the ideal temperature curve. If the actual temperature varies greatly during the control due to some reason (e.g., opening of the door, in the case of a refrigerator), the performance level of the compressor is rapidly increased so that the actual temperature that has deflected from the ideal temperature curve can return to the ideal temperature curve (i.e., to the target temperature corresponding to the current operating time) as rapidly as possible. However, the refrigerator control usually prevents the rapid increase of the performance level of the compressor. Therefore, the conventional methods can result in an energy consumption increase compared to usual operation.

In contrast, according to the present invention, as recited in new independent claim 37, the compressor control for a refrigeration unit is performed at predetermined intervals of operating time so that the actual temperature can decrease with a target temperature reduction degree associated with the current actual temperature. That is, control is not performed based on the current operating time, but based on the target temperature reduction degree associated with the current temperature.

Thus, the present invention, as recited in claim 37, has the advantage that when the actual temperature significantly increases during the control due to the door opening, the performance level of the compressor is slightly increased based on the target temperature reduction degree associated with the increased temperature. That is, the time until the actual temperature reaches the set temperature may be prolonged, but the rapid increase of the performance level can be prevented even when the actual temperature has greatly increased, thus, saving energy.

Additionally, both cited references, Kobayashi and Okamoto, fail to overcome the deficiencies of Stamp and Longtin, discussed above. Moreover, there is no reasoning in the prior art to modify any of the cited references, such that the combination thereof would have rendered claim 37 obvious. Therefore, Applicants submit that independent claim 37 and its dependent claims are allowable over the cited prior art.

Conclusion

In view of the foregoing amendments and remarks, all of the claims now pending in this application are believed to be in condition for allowance. Reconsideration and favorable action

are respectfully solicited.

Should the Examiner believe there are any remaining issues that must be resolved before this application can be allowed, it is respectfully requested that the Examiner contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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January 26, 2010